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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,250	03/12/2002	Masaaki Nakamura	Q67901	1287

7590 03/24/2006

Sughrue Mion Zinn Macpeak & Seas  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3202

EXAMINER
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GRAY, JILL M

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/019,250	<b>Applicant(s)</b> NAKAMURA ET AL.	
	<b>Examiner</b> Jill M. Gray	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 10-30 is/are pending in the application.
- 4a) Of the above claim(s) 13-21 and 24-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-12, 22, 23, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 10, 22-23, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al, 4,872,932 (Yoshikawa) in view of Bellamy 3,897,583.

Yoshikawa teaches a rubbery composite material comprising a substrate and a rubber composition bonded thereto, said rubbery composite being prepared by metallizing a substrate with a thin film of a metal such as cobalt or an alloy thereof wherein the film has a thickness of 10 angstroms to 100 $\mu$ , as required by claim 1. See abstract and column 6, lines 24-30. In addition, Yoshikawa teaches that the cobalt content is more than 50% by weight, per claims 2-4. See column 6, lines 20-23. The

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substrates taught by Yoshikawa can be metals, plastics or ceramics. See column 5, lines 15-40. Also, Yoshikawa teaches that the particular material, shape and size of the substrate used may be properly selected depending on the intended application (note column 5, lines 38-41), further teaching that his rubbery composite materials can be used in the formation of tires, belts, and hoses (note column 4, lines 62-64). In addition, Yoshikawa teaches that his composition is utilized for bonding a rubber composition and a metal substrate such as steel cord, steel tire cord, steel strand or steel wire and other substrates. See column 5, lines 1-7. Yoshikawa does not specifically teach fibers that are substantially non-bundled or fiber aggregate of the type contemplated by applicants. Bellamy teaches the adhesion of metal to rubber using cobalt salts wherein the metal can be steel fabric. See column 3, lines 20-22, Example and claim 5. Accordingly, Bellamy teaches that it is known in the art to use fiber aggregates as substrates in forming rubber-reinforcing fibers. It would have been obvious at the time the invention was made, to form a rubber-reinforcing fiber of the type contemplated by applicants wherein the metal substrate of Yoshikawa is any known to the art, in particular, an aggregate such as a fabric as taught Bellamy.

Therefore, the combined teachings of Yoshikawa and Bellamy would have rendered obvious the invention as claimed in present claims 1-4, 10 and 29.

4. Claims 1-4, 10, 12, 22-23, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al, 4,872,932, (Yoshikawa) as applied above to claims 1-4, 10, and 29 in view of Japanese Patent Publication JP 10-053010 (translation), hereinafter the publication.

Yoshikawa is as set forth above but does not specifically teach that his fiber is substantially non-bundles or is a fiber aggregate. The publication teaches the use of non-woven fabric in a rubber-filament complex of a fiber reinforced member layer in a tire. It should also be noted that the publication teaches the inclusion of short fibers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the rubbery composite material of Yoshikawa and provide it with a non-woven fabric with the motivation of improving the rigidity and stability of the resultant article.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al, 4,872,932 (Yoshikawa) in view of Marshall et al, 4,397,985 (Marshall) in view of Shindo et al, 5,049,447 (Shindo), for reasons of record.

Yoshikawa and Marshall are as set forth above, but do not teach the specific properties of the polyester. Shindo teaches polyester fiber for use in the production of tire cords and belts, said polyester fiber being essentially as claimed in claim 11. See Table 2. It would have been obvious to one of ordinary skill in the art to as the polyester fiber of Marshall, a polyester fiber having the requisite properties as claimed by applicants and as taught by Shindo with the reasonable expectation of forming a cord to be used as reinforcement for rubber, said cord having a high tenacity, chemical stability, modulus and low shrinkage.

Accordingly, the combined teachings of Yoshikawa, Marshall and Shindo would have rendered obvious the invention as claimed in present claim 11.

***Response to Arguments***

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6. Applicant's arguments filed February 28, 2006 have been fully considered but they are not persuasive.

Applicants argue that Yoshikawa refers to resins, ceramics and glass but not to fibers.

Agreeably Yoshikawa does not specifically teach fibers. Nonetheless, his broad teaching of substrates would have provided a suggestion to all substrates in the art. In addition, his specific teachings of utilities that encompass tires, belts and hose, as well as steel fibers, steel cords, etc. would have lead one of ordinary skill in this art to immediately envisage the utility of fibers are the substrate. Section 103 requires us to presume full knowledge by the inventor of the prior art in the field of his endeavor. This knowledge would clearly encompass the usage of fibers as rubber reinforcing materials, particularly in the formation of tires, hoses and belts. That Yoshikawa does not specifically state fibers is of no moment in this art.

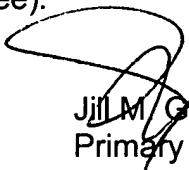
No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill M. Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jill M. Gray  
Primary Examiner  
Art Unit 1774

jmg